



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/039,094	01/02/2002	John A. Benda	67,007-005; R-4264	8685

26096 7590 10/15/2004
CARLSON, GASKEY & OLDS, P.C.
400 WEST MAPLE ROAD
SUITE 350
BIRMINGHAM, MI 48009

EXAMINER

HOFFMANN, JOHN M

ART UNIT	PAPER NUMBER
----------	--------------

1731

DATE MAILED: 10/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.



UNITED STATES PATENT AND TRADEMARK OFFICE

COMMISSIONER FOR PATENTS
UNITED STATES PATENT AND TRADEMARK OFFICE
P.O. Box 1450
ALEXANDRIA, VA 22313-1450
www.uspto.gov

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Application Number: 10/039,094
Filing Date: January 02, 2002
Appellant(s): BENDA ET AL.

MAILED

OCT 15 2004

GROUP 1700

Anthony P. Cho
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 11 August 2004.

(1) *Real Party in Interest*

A statement identifying the real party in interest is contained in the brief.

(2) *Related Appeals and Interferences*

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief. There is none.

(3) *Status of Claims*

The statement of the status of the claims contained in the brief is correct.

(4) *Status of Amendments After Final*

No amendment after final has been filed.

(5) *Summary of Invention*

The summary of invention contained in the brief is correct.

(6) *Issues*

The appellant's statement of the issues in the brief is correct.

(7) *Grouping of Claims*

The rejection of claims 1, 3 and 5 under 35 U.S.C. 102(b) as being unpatentable over Byron (U.S. 5,694,502) stand or fall together because appellant's brief does not

Art Unit: 1731

include a statement that this grouping of claims does not stand or fall together and reasons in support thereof. See 37 CFR 1.192(c)(7).

The rejection of claims 1, 3, 5 and 23 under 35 U.S.C.103(a) as being unpatentable over Byron (U.S. 5,694,502) stand or fall together because appellant's brief does not include a statement that this grouping of claims does not stand or fall together and reasons in support thereof. See 37 CFR 1.192(c)(7).

The rejection of claims 1-3 under 35 U.S.C. 103(a) as being unpatentable over D. Kim (U.S. 6,501,881) stand or fall together because appellant's brief does not include a statement that this grouping of claims does not stand or fall together and reasons in support thereof. See 37 CFR 1.192(c)(7).

The appellant's statement in the brief that certain claims do not stand or fall together is not agreed with because there is no argument with any reasonable degree of specificity. Merely pointing out differences in what the claims cover is not an argument as to why the claims are separately patentable. For these reasons claims 1-2 and 6-10 [under 35 USC 103(a) as being unpatentable over Prast (U.S. 5,176,731) and Nakai] stand or fall together. And claims 26-30, 1, 4, and 24-25 [under 35 U.S.C. j103(a) as being unpatentable over Kim (U.S. 6,430,342)] do not stand or fall together.

(8) Claims Appealed

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) Prior Art of Record

5,694,502	BYRON	12-1997
6,509,547	BERNSTEIN	1-2003
6,501,881	KIM	12-2002
5,176,731	PRAST	1-1993
5,996,375	NAKAI	12-1999
6,430,342	KIM	8-2002

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Issue A (this issue is not contested by Appellant)

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 23 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 23 is not understood: there is only one first locality and one second locality: they can have only one interval between them, and not "intervals". More than

one interval would require at least three localities. One of ordinary skill would be confused as to how to interpret this claim.

Issue B

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3, and 5 rejected under 35 U.S.C. 102(b) as being anticipated by Byron 5694502.

Claim 1, step A requires directing a laser at a first locality of a fiber which has a circumference and extending along an axis. The term "locality" is not defined nor limited by the specification, claims or prior art. There is no assertion of any special meaning for the term. Figure 2 of Byron shows the first beam 11, and the claimed fiber 10. Beam 11 is directed along a substantial length of the fiber. It is deemed that the left-most portion exposed to the beam is the first locality. In other words, the term "locality" is deemed to encompass any locality – including an arbitrary one: for example the left-most portion exposed to the beam 11. The claim is comprising in nature and is open to having the beam 11 be directed to other locations/portions/localities that are external to the first locality.

Step B): beam 14 is the second laser beam that is directed to a second locality that is displaced axially and circumferentially. Figure 2 clearly shows this. This second locality is displaced from the first locality (i.e. the left-most portion) axially and circumferentially.

Step C): A grating is clearly formed. See the Title or Abstract, for instance.

It is noted the claim is comprising in nature and is open to having the beams being directed to other locations besides the first and second localities.

The limitations of claims 3 and 5 are taught at col. 2, lines 1-28.

Issue C

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1, 3, 5 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Byron 5694502.

See how Byron teaches substantially the entire invention above. However, Byron doesn't explicitly teach the two localities that are axially displaced. As can be seen from Byron's figure 2, there is a top locality from beam 11, and a bottom locality that is impinged from beam 14: these two localities are circumferentially displaced. It is noted that if one was to repeat the Byron process at another location along the length of the fiber, there would be a total of four localities: two top localities and two bottom localities. It is inherent that at least two of these four localities would be axially and circumferentially displaced from each other.

It would have been obvious to repeat the process along the fiber to make additional gratings along the fiber so as make as many gratings as one desires.

Claim 23. Byron does not teach the spacing limitation of claim 23. It would have been obvious to have them spaced evenly, so that each is identical, so as to produce uniform product where the consumer can get everything exactly alike.

Issue D

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Byron 5694502 as applied to claim 3 above, and further in view of Bernstein 6509547.

Claim 4 adds the limitation of deforming the fiber about the localities.

Byron does not teach the deforming of the fiber. Bernstein disclose removing material (i.e. deforming) from a fiber (See col. 1, lines 16-33 and col. 2, lines 16-17 of Bernstein). More specifically: Bernstein teaches that fibers have protective layers to increase strength and protect it; and that the material is removed prior to forming gratings. It would have been obvious to use a protective coating on the Byron fiber so as to increase strength and protection (as disclosed by Bernstein), and it would have been further obvious to remove the coating as a precursor step to writing the grating, so as to let the laser directly impinge on the glass of the fiber (as disclosed by Bernstein). It would have been obvious to remove the material (i.e. deform the fiber) at all localities to be treated. The purpose of the removal/deforming is "to form the grating on the optical fiber." It is noted that there is no indication the forming step comprises deforming, nor that the deformations themselves create the grating. Although such is disclosed, such limitations are not read into the claims.

Issue E

Claims 1- 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim 6501881.

Kim discloses the invention at figure 5 and col. 5, lines 10-36. However Kim has no disclosure of two different localities along the axis. Similar to how Byron was applied under 35 USC 103 – if the Kim process were repeated at another location along the fiber, it would result in multiple localities – and that there would be at least two of them which are in the claimed axially and circumferentially displaced relationship as presently claimed. It would have been obvious to create another grating by repeating the Kim process at a location further down the fiber, so as to make as many gratings as desired.

Claim 2: the mirrors 560 of figure 5 create the second beam which is the first beam. See col. 5, lines 10-36.

Claim 3 is clearly met.

Issue F

Claims 1-2 and 6-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Prast 5176731 and Nakai 5996375.

Figures 5 and 4 of Prast disclose directing laser light at two different localities as required by the first two steps of claim 1. However, Prast does not disclose making a grating. Nakai discloses that one can make gratings from optical fibers. It would have been obvious to us the Prast fiber to create the Nakai gratings so that one can precisely control the central wavelength and rejection of the light used in optical systems (see col. 1 lines 65-67) and/or to sell them and make money. It is noted that the claims do not

require that the first and second laser beam actually cause the creation of the grating. As to the different localities: one can choose any two different localities, since all axial localities are irradiated.

Alternatively: Nakai discloses forming of a grating as claimed but does not disclose using two laser beams as claimed. Prast discloses an improved method of making fibers, it would have been obvious to modify the Nakai invention, by forming the fibers using the Prast improvement. See col. 1, lines 39-45 and col. 4, lines 31-34 of Prast which discloses at least one improvement.

Claim 2 is clearly met.

Claim 6: see col. 9, line 31 of Prast.

Claim 7: the lasers trace out various patterns including a cross, a square, a "T" and triangles.

Claim 8: the beams originate at the laser; 401/501. It is clear that the laser is "activated" – that is, it is on/active. It would have been obvious to set the laser 401/501 in a location and leave it there – because there would be no need to move it. This setting would be predetermining its location. The laser 401/501 is a three dimensional object and thus has various "points" (for example, its left most point and its right most point). The laser would be activated (i.e. "on") when it is at these predetermined points throughout the entire process.

Claim 9 is clearly met.

Claim 10: it would have been obvious to make as many gratings as one desires/needs.

Issue G

Claims 26-30 and 1,4, 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim 6430342.

Figure 1 of Kim discloses using a laser to "deform" the fiber (col. 1, lines 58-63). But Kim '342 doesn't show using two lasers. Figure 2, however, requires putting deformations on the opposite side of the fiber (col. 2, lines 2-9). It would have been obvious to form the deformation on the figure 2 fiber, by application of another laser beam on the other side - because the fiber is made using "the same manner". And if the light is shown from the same location, it could not reach the bottom side of the fiber.

Claim 27: the claims do not require that the "deforming" of claim 27 is "said" deforming of claim 26. Thus it is open to any deforming at any time. It would have been obvious to bend the fiber as it is wound on a spool, or else bend it around a corner or through a conduit. One of ordinary skill realizes that optical fibers are intended to be able to be placed in undulating paths. Or looking at it in another way: Applicant's deforming step is comprising in nature and can include various sub-steps such as cooling the fiber and recoating the fiber: thus it is also open to a sub step of snaking a fiber through a conduit. This would result in bends in the fiber.

Claim 28 is clearly met.

Claim 29: The first upper 30' and the last lower 30' would be spaced from each other along an axis of the optical fiber.

Claim 30: it would have been obvious to repeat the method at numerous locations so as to make even more gratings.

Claims 1,4 , 24 and 25 are met for substantially the same reasons claims 26-30 are met.

(11) Response to Argument

Issue A – This issue is not contested.

Issue B:

It is argued that Byron does not show the two claimed localities that are displaced from each other. Rather (it is argued) that the two localities that Byron shows are not displaced. It is Appellant's position that the "large region" which is hit by laser 11 is the locality; and that one cannot consider the right-most portion of that region to be a locality.

Appellant has not shown that Byron's grating cannot be considered to have numerous adjacent localities. Applicant's localities are very near each other. There is no reason why one must consider Byron's sections taken as a whole constitute a "locality" but Applicant's irradiated sections (when taken as a whole) do not constitute a locality. It appears the arguments rely on some specific definition of "locality" which is not explicitly indicated in the specification. It is well established that unless a special definition is otherwise provided for, a term is interpreted by its customary meaning. It is

deemed that a grating can have multiple localities, such as a right end, a left end and middle portion. The term "locality" is a very broad term.

Since the arguments only rely on conclusions and fail to provide evidence or rationale as to why the left-most portion does not read on "locality", the arguments are not convincing.

As to the argument that that Examiner noted that the Byron doesn't "explicitly" teach the two localities. From MPEP 2112: "The express, implicit, and inherent disclosures of a prior art reference may be relied upon in the rejection of claims under 35 U.S.C. 102 or 103." Thus a rejection under 35 USC 103 can still be proper even though the two localities are not explicitly (i.e. expressly) taught.

It is further argued that there is a distinction between Byron and the present invention. There is no indication as to how the distinction is a patentable one. There is no indication of any limitation of the claim which Byron lacks – or would not have been obvious.

Issue C:

It is argued that this rejection does not point to where the prior art teaches more than one locality. This is not convincing because the rejection points out that making more than one grating would have been obvious and that such would clearly require multiple localities. Since Appellant does not disagree with the determination that it would have been obvious to make multiple gratings, it is deemed that Appellant agrees that such would have been obvious.

Issue D:

It is argued that there would be no motivation to use the Bernstein deforming, when Byron has no protective coating. This is largely irrelevant, because it fails to take into account the entire rejection. The rejection clearly states that the coating would have been obvious:

It would have been obvious to use a protective coating on the Byron fiber so as to increase strength and protection, and it would have been further obvious to remove the coating as a precursor step to writing the grating, so as to let the laser directly impinge on the glass of the fiber.

It is further argued that Bernstein deformation is insufficient to form the grating.

This argument is based on an unreasonably narrow interpretation of the claims. The claims do not require creating Appellant's deformation-based grating. The claims are much broader than Appellant's specific embodiments. As pointed out in the rejection:

"The purpose of the removal/deforming is "to form the grating on the optical fiber." It is noted that there is no indication the forming step comprises deforming, nor that the deformations themselves create the grating. Although such is disclosed, such limitations are not read into the claims."

Since Appellant does not address/disagree with this portion of the rejection, it is deemed that Appellant acquiesces to this.

Issue E

It is argued that Examiner infers that there would be the first and second localities in Kim. There is no inference that Kim teaches such – the rejection is clear that Kim does not teach the two localities.

It is argued that there is no motivation in Kim to repeat the process. This is largely irrelevant; it is not invention to repeat a process multiple times. Since Appellant does not disagree with the Offices position that it would have been obvious to repeat the Kim process, it is deemed that Appellant agrees that such would have been obvious.

Issue F

It is argued that Prast does not disclose directing two beams at two different localities. A fair reading of Prast shows that the two lasers are directed at numerous axial-localities. It is clear from the Prast drawings that the beams are directed at circumferentially displaced locations.

It is alleged that there is no motivation for combining Prast and Nakai; there is no specificity to this allegation. The rejection clearly points out the motivation.

It is further argued that Nakai teaches away from its combination with Prast. Appellant's arguments are not convincing because they are not directed to the combination that is mentioned in the present rejection. In other words, it does not matter that Prast and Nakai cannot be combined in the manner in which Applicant suggests. The only relevant combination is the combination in the rejection. There is no evidence or rationale which address that the references teaches away from the combination of the rejection. Whereas it may be true that one cannot combine Nakai and Prast to obtain one of Appellant's specific embodiments, the claims at issue are not limited to Appellant's specific embodiments. See the rejection for the manner in which the broadly claimed invention is obvious.

It is still further argued that Prast does not show irradiating two localities axially displaced from each other. This is not convincing because Prast irradiates the entire fiber. For Applicant's argument to be valid, one would have to consider the entire Prast fiber to be a single locality. If a single fiber is a single locality, then Applicant's fiber is also a single locality. Thus for the argument to be valid, Applicant's own invention would not read on the claims. Any location on the Prast fiber can be considered to be a locality.

Re claims 7-8: It is argued that claims 1-2 and 6-10 do not stand or fall together. There is no argument with any reasonable degree of specificity. There is only an argument that Prast does not teach the claim limitations. Merely pointing out differences in what the claims cover is not an argument as to why the claims are separately patentable.

Regarding claim 7 it is argued that the rejection does not identify the scanning patterns. As indicated in the Final Rejection: "Figure 4 clearly shows these things. For example a cross is formed by the light which goes from 408 to 422 (this would be the cross-bar of the cross) and the second part of the cross would include the light which travels from 407 to 424. For a square: 406 points to one vertex, 408 points to a second vertex, a third vertex is on mirror 407, and the final vertex is not shown but would be present." Applicant has not disagreed or in any way indicated that these are not scanning patterns. Therefore it is deemed that Appellant agrees that such are scanning patterns.

Likewise for Claim 8, Appellant's issues were previously addressed in the Final Rejection: "It is argued that there is nothing which teaches the activation at predetermined points. This is probably correct, and why the rejection states it is "obvious" - not that it is an implicit or explicit feature." Since Appellant does not disagree with such, nor points out any error in such, it is deemed that Appellant agrees that such is obvious.

Issue G

It is argued that there is no "requirement" to use a second laser in Kim '342. This is irrelevant. The rejection is not based on anticipation, rather it is based on obviousness. It is further argued since there is no requirement, it is not obvious. This is not understood. It appears that Appellant is confusing 35 USC 102 with 35 USC 103. It is well understood that non-required (i.e. novel) modifications can still be obvious.

It is further argued that the Office incorrectly relies on figure 2 and the cited passage. There is no indication as to why Appellant is of this opinion. Examiner cannot rely on a mere allegation of the rejection is "incorrect".

As to the argument that Examiner failed to show that regions 30' are formed by lasers incident on localities as claimed: This is irrelevant, such would have been obvious as set forth in the rejection. Again, this is a rejection is based on obviousness, not anticipation. It is largely irrelevant that Kim does not teach the use of the lasers as claimed, because such would have been obvious for the reasons set forth above.

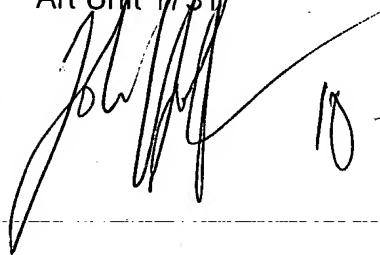
For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

John Hoffmann
Primary Examiner
Art Unit 1731

JMH
October 12, 2004

Conferees

 10-12-04

Steven Griffin



Patrick Ryan



CARLSON, GASKEY & OLDS, P.C.
400 WEST MAPLE ROAD
SUITE 350
BIRMINGHAM, MI 48009